UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/459,574	12/13/1999	GEN SASAKI	6318-0022-2	1341

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EXAMINER
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ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/459,574	SASAKI, GEN
	Examiner	Art Unit	
	Nhan T. Tran	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>5/24/2005 & 4/27/2005</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 7-29* is/are pending in the application.

    4a) Of the above claim(s) *7-27* is/are withdrawn from consideration.

5)☒ Claim(s) *28 and 29* is/are allowed.

6)☒ Claim(s) *1 and 4* is/are rejected.

7)☒ Claim(s) *2 and 3* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 5/24/2005 & 4/27/2005 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 1 & 4 have been considered but are moot in

view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horigome et al

(US 5,828,986) in view of Sansom-Wai et al (US 6,411,331).

Regarding claim 1, Horigome discloses an image processing circuit configured to

perform predetermined image processing of pixel data included in an image photographed by an

image pickup device (see Figs. 9 & 19), said circuit comprising:

a selector (73b) configured to received said pixel data from the image pickup device (via

circuit 73a) and stored pixel data from a main memory (80A, Fig. 19);

a real time processing unit (image processing section 73) connected to an output of said

selector and configured to perform a general image processing (at least DA conversion

performed by circuit 73c) of pixel data received from the selector by real time processing and to

output pixel data (from circuit 73a) to the main memory (80A), the main memory being

configured to store the pixel data output from said real time processing unit in image frame units

as said stored pixel data (see col. 11, lines 30-40 and col. 8, line 56 – col. 10, line 45 and note

that either circuit 73a or 73c is considered as a real time processing unit within the real time

processing section 73);

a central control unit (CPU 75A) including input unit connected to a main memory (via

CPU BUS) and configured to execute exceptional processing (JPEG compression) with respect

to the stored pixel data received from said main memory (80A), wherein said selector (73b) is

configured to select at least one of said pixel data from said image pickup device and said stored

pixel data from said main memory to be provided to the output connected to the real time

processing unit. See col. 11, lines 30-40 and col. 8, line 56 – col. 10, line 45.

Although Horigome discloses exceptional image processing (JPEG compression)

performed by hardware circuitry 85 under control of CPU 75A (Fig. 19), Horigome does not

teach that the JPEG compression is performed by executing a software routine by the CPU.

However, it is well known that JPEG compression can be implemented in an image processing

system by either hardware circuitry or software routine executed at a control unit in a

conventional fashion as taught by Sansom-Wai et al, col. 5, lines 7-23.

Therefore, it would have been obvious to one of ordinary skill in the art to implement the

JPEG compression utilizing software routine which would be executed by the CPU as an

alternative configuration of JPEG processing over a hardware compression circuitry.

4.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horigome et al and

Sansom-Wai et al as applied to claim 1 and in further view of Hidari (US 5,905,533).

Regarding claim 4, Horigome and Sansom-Wai do not disclose repetitive inputs from a

main memory to the real time processing unit to circulate over and over again when said selector

selects the pixel data of image temporarily stored in said main memory. Hidari teaches an image

processing unit that is implemented with a circulative addition circuitry to perform image signal

addition by circulating pixel data output from a memory (24) over and over again to *reduce noise*

contained in pixel data (col. 8, line 44 – col. 9, line 15). As the number of times of circulative

addition increases, the degree of noise is decreased (Figs. 6-9).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the

real time processing unit by including a circulative addition circuitry so that the pixel data

inputted repetively from the main memory to the real processing unit would be circulated by a

number of times to *reduce noise* contained in the pixel data when said selector selected the pixel

data of image temporarily stored in said main memory before outputting to a

reproduction/recording unit.

Allowable Subject Matter

5.   Claims 2 & 3 are objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims. *See the same reasons for allowance set forth below.*

6.   Claims 28 & 29 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 28, the prior art of record fails to teach or fairly suggest the combination

of all limitations required in claim 28 that includes "...*said real time processing unit including a*

plurality of image processing blocks connected sequentially; a foremost stage image processing

block configured to selectively receive said pixel data stored in said main memory through said

selector; at least one of a second and later image processing blocks configured to selectively

receive at least one of a pixel data from said foremost stage image processing block and the

pixel data stored in said main memory through a predetermined other selector; a rearmost stage

image processing block configured to send a first processed pixel data to said main memory; and

at least one of an image processing block that precedes said the rearmost stage image

processing block configured to send a second processed pixel data to both the succeeding image

processing block and said main memory."

Regarding claim 29, the prior art of record also fails to teach or fairly suggest the combination of all limitations required in claim 29 that includes "...*a timing generator configured to regulate operation timing of said real time processing unit and said image pickup device, said timing generator comprising: a synchronous controller configured to synchronously regulate operation timing of said real time processing unit and operation timing of said image pickup device when said selector selects the pixel data in the image photographed by said image pickup device; and an asynchronous controller configured to asynchronously regulate operation timing of said real time processing unit and operation timing of said image pickup device when said selector selects the pixel data stored in said main memory.*"

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.

DAVID L. OMETZ
PRIMARY EXAMINER